



DEPARTMENT OF THE ARMY

U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:
CEMP-RF (200-1a)

1 DEC 1994

MEMORANDUM FOR

COMMANDER, SOUTH PACIFIC DIVISION, ATTN: CESPD-PM-M
COMMANDER, HUNTSVILLE DIVISION, ATTN: CEHND-PM-OT

SUBJECT: DERP-FUDS Inventory Project Report (INPR) for Nellis
Air Force Range, Area A, Las Vegas NV, Site No. J09NV110300

1. References:

a. Memorandum, CESPD-ED-G, 12 September 1994, subject as
above.

b. Memorandum, CEHND-PM-SO, 19 November 1994, Subject:
DERP-FUDS INPRS Requiring an Ordnance and Explosive Waste
Engineering Evaluation and Cost Analysis (EE/CA).

c. DERP-FUDS Manual, U.S. Army Corps of Engineers,
Directorate of Military Programs, Division of Environmental
Restoration, Washington, D.C., 8 December 1993.

2. This memorandum authorizes Ordnance and Explosive Waste (OEW)
Project Number J09NV 110301. This project will be executed in
accordance with above reference 1.c.

3. The geographic district, CESPL, will provide the project
manager for this project in accordance with ER 5-7 1.

4. CEMP-RF POC for this action is Sara G. Angus, (202) 504-5223.

FOR THE DIRECTOR OF MILITARY PROGRAMS:

for

CARY JONES
Chief, Environmental Restoration
Division
Directorate of Military Programs

CF: CESPL-PM
CEHND-PM-ED

Britton/et/5482

10-26A.PRO/Edra's Disk

CEHND-PM-SO (200-1c)

19 November 1994

MEMORANDUM FOR Commander, HQUSACE, ATTN: CEMP-RF (Mr. Jim Coppola), 20 Massachusetts Avenue NW, Washington, DC 20314-1000

SUBJECT: DERP-FUDS Inventory Project Report (INPR) Requiring an Ordnance and Explosive Waste (OEW) Engineering Evaluation and Cost Analysis (EE/CA)

1. The enclosed INPR has been submitted for further investigation or action by Huntsville Division. We have reviewed the INPR and recommend a phased EE/CA be scheduled for the following site:

DIVISION	PROJECT NO.	RAC	SITE NAME
SPD	J09NV050802- 110301 BIG FUDS changed #	4	Nellis Air Force Range, Area A (encl)

2. A completed DD1391 cost estimate and RAC score is included with the enclosure. The POC is Mr. Robert Britton, DSN 645-5482 or commercial 205-955-5482.

FOR THE DIRECTOR OF PROGRAMS
AND PROJECT MANAGEMENT:

Encl

LAWSON S. LEE, P.E.
Chief, Ordnance and Technical
Programs Division

CF:

Commander, U.S. Army Engineer Division, South Pacific Division,
ATTN: CESP-D-ED-G, 630 Sansome Street, Room 720, San Francisco,
CA 94111-2206

PM-OT, Britton
PM-ED, Douglas
PM-SO, Chamness
ED File/Read

WLS 11/21/94 PM-SO, Galloway
CRB 11/22/94 PM-OT, Britton



DEPARTMENT OF THE ARMY

LOS ANGELES DISTRICT, CORPS OF ENGINEERS

P.O. BOX 2751

LOS ANGELES, CALIFORNIA 90053-2751

REPLY TO
ATTENTION OF

CESPL-ED-MI

25 March 1994

MEMORANDUM FOR Commander, South Pacific Division, ATTN:
CESPD-ED-G, Vince Del Greco

SUBJECT: DERP-FUDS Inventory Project Report (INPR) for Site No.
J09NV050800

1. Enclosed is the INPR for:

J09NV050800 NELLIS AIR FORCE RANGE /D/

We determined that ordnance contamination (OEW) eligible under DERP-FUDS may exist.

2. I recommend the following:

a. Findings and Determination of Eligibility be approved and signed for each site.

b. Forward a copy of these reports to Commander, Huntsville Division to determine if further action is appropriate.

Encl

Charles J. Vanantwerp
for R. L. VANANTWERP
COL, EN
Commanding



9-282
REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
SOUTH PACIFIC DIVISION, CORPS OF ENGINEERS
630 Sansome Street, Room 720
San Francisco, California 94111-2206

CESPD-ED-G (200-1c)

12 SEP '94

MEMORANDUM FOR

Commander, U.S. Army Corps of Engineers, 20 Massachusetts Avenue,
N.W., Washington, DC 20314-1000

✓ Commander, U.S. Army Engineer Division, Huntsville,
P.O. Box 1600, Huntsville, Alabama 35807-4301

SUBJECT: Defense Environmental Restoration Program for Formerly
Used Defense Sites (DERP-FUDS), Inventory Project Report (INPR)
for Nellis Air Force Range /D/, Las Vegas, Nevada, Site No.
J09NV050800

1. I am forwarding the INPR for Nellis Air Force Range /D/ for appropriate action. The site is eligible for DERP-FUDS.
2. I recommend that CEHND determine the need for further investigation and action at this site. Due to the large area involved, Los Angeles District divided the site into nine areas and computed individual RAC scores for each of the areas. The highest computed RAC score was RAC 1. $\frac{3}{4}$

Encl

for *De Ritt* coc
MILTON HUNTER
Brigadier General, U.S. Army
Commanding

CF:
CESPL-ED-M (HTRW)

1994 SEP 16 AM 9:02

SITE SURVEY SUMMARY SHEET
FOR
DERP-FUDS SITE NO. J09NYQ50800
NELLIS AIR FORCE RANGE /D/
11 January 1994

SITE NAME: NELLIS AIR FORCE RANGE; also known as Nellis Air Force Bombing and Gunnery Range, Nellis Air Force Bombing Range, and Las Vegas Bombing and Gunnery Range.

LOCATION: The southern end of the currently active Nellis Air Force Range is located approximately 20 miles north of Las Vegas Nevada, extending north an additional 100 miles. It is located in Clark, Lincoln, and Nye Counties, Nevada.

SITE HISTORY: The Air Force acquired 4,735,922.05 acres for Nellis Air Force Range (NAFR) by transfer, fee, and lease between 1940 and 1970. NAFR has been used by the Air Force for many training functions, including aerial bombing and gunnery training involving air-to-air and air-to-ground ordnance delivery, weapons testing, air combat training, tactical navigation, aerial maneuvers, and simulated electronic threat training. Also, depleted Uranium ammunition has been used by the Air Force and sites of radioactive contamination exist on the active NAFR.

Between 1942 and 1976 the Air Force disposed of approximately 1,644,026.56 acres in nine areas (designated as Areas A through I for purposes of this report). Area A, consisting of approximately 748,285 acres, was retransferred to the Department of Interior (DOI), Bureau of Land Management (BLM), on 12 January 1942 and approximately 8,920 acres are now in private ownership. Areas B and C, each consisting of 23,040 acres, were returned to DOI, U.S. Fish and Wildlife Service (USFWS) on 11 March 1976. Area D, consisting of 1,280 acres, was returned to DOI, USFWS, in 1975. Area E, consisting of 8,600.66 acres, was returned to DOI (approximately 480 acres to USFWS and approximately 8,120.66 acres to BLM) on 11 March 1976. Area F, consisting of 47,481.50 acres, was returned to DOI, USFWS, exact date unknown but likely sometime between 1970 and 1979. Area G, consisting of 733,418.44 acres, was retransferred to DOI between 1952 and 1961, and was then transferred to the Atomic Energy Commission which eventually became the Department of Energy (DOE). Area H, consisting of approximately 53,760 acres, was returned to DOI, BLM, likely prior to 1960 (exact date unknown). Area I, consisting of 5,120.96 acres, was retransferred to DOI, BLM (4,749.06 acres on 22 July 1959), and to private interests (371.90 acres on 13 August 1957).

No DOD improvements are known to have been constructed on the disposed properties. BLM property uses include grazing, quarry operations, and mining operations. An active DOD site consisting of about 329 acres (used by the 554 Range Squadron for NAFR) is located in Area E. Also located in Area E is a Nevada State

prison. USFWS property consists of the Desert National Wildlife Range. DOE property is occupied by the Nevada Test Site (NTS) which has been used for over forty years for nuclear weapons testing and research. Before the NTS was used for nuclear weapons testing, DOD had dropped significant quantities of ordnance and explosive devices on the property. Over the years much of these materials have been retrieved and/or disposed of by the DOE contractor Reynolds Electrical & Engineering Company. Since nuclear weapons testing began on the NTS in the early 1950s significant areas of radioactive contamination have been created.

SITE VISIT: The site was visited on 4, 23, and 24 September 1993 by Steve Cameron of Science Applications International Corporation, San Diego, California. The primary site contact was Mary Ann Cox, Chief of Real Estate for Nellis Air Force Base.

CATEGORY OF HAZARD: OEW

PROJECT DESCRIPTION: Recommend the MCX for OEW at Huntsville Division make a determination regarding further investigation at this site.

AVAILABLE STUDIES AND REPORTS: Real estate files containing various reports are maintained by the Chief of Real Estate for Nellis Air Force Base, and by the U.S. Army Corps of Engineers, L.A. District, Real Estate Division. The "Special Nevada Report," Draft, December 1990, was prepared by Science Applications International Corporation, for the Department of the Air Force. The "Nevada Test Site, Inventory of Inactive and Abandoned Facilities and Waste Sites," April 1991, was prepared by Reynolds Electrical & Engineering Company for DOE. "Final Environmental Impact Statement, Proposed Public Land Withdrawal, Nellis Air Force Bombing Range, Nye, Clark, and Lincoln Counties, Nevada," prepared by Bureau of Land Management and Department of the Air Force, 23 April 1981. Mr. Bill Beam, employed by Reynolds Electrical & Engineering Company from 1967 to 1993, maintains a photo album depicting waste DOD ordnance which he removed and/or disposed of during his employment on the NTS.

DISTRICT POC: Jatin Desai, Los Angeles District, (213) 894-6266.

**DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
FORMERLY USED DEFENSE SITES
FINDINGS AND DETERMINATION OF ELIGIBILITY**

NELLIS AIR FORCE RANGE /D/
LAS VEGAS, NEVADA
SITE NO: J09NV050800

FINDINGS OF FACT

1. The Air Force acquired 4,735,922.05 acres for Nellis Air Force Range (NAFR) during the period 1940 to 1970. This acquisition included 4,734,981.42 acres in transfer from the Department of Interior (DOI) (4,043,339.55 acres acquired 29 October 1940; 184,371.28 acres acquired 4 March 1942; 294,695.25 acres acquired 16 April 1951; 8,600.66 acres acquired 14 October 1953; 46,080.00 acres acquired 20 January 1961; 25,293.97 acres acquired 12 November 1942; 81,480.00 acres acquired 20 January 1961; 9.00 acres acquired 11 May 1967; 51,111.71 acres acquired 24 December 1970), 367.47 acres in fee (70.09 acres acquired from M. Steele on 26 June 1957, originally by leasehold condemnation on 29 October 1941; 41.32 acres acquired from Nye County on 26 June 1957, 80.00 acres acquired from P.T.P. Inc. on 21 December 1961, originally by lease on 28 October 1941; 176.06 acres acquired from E. Painter on 20 November 1942), and 573.16 acres in lease (20.06 acres acquired from G. Dugan on 29 October 1941; 20.66 acres acquired from R. Burr on 29 October 1941; 54.86 acres acquired from J. Fuetsch on 2 November 1951; 53.46 acres acquired from Nye County on 2 November 1951; 52.22 acres acquired from the Swiss Relief Society on 2 November 1951; 371.90 acres acquired from E. Mason on 2 November 1951).

2. The Air Force, based at Nellis Air Force Base (formerly Las Vegas Army Air Field) and Indian Springs Air Force Auxiliary Field, has used NAFR for many training functions, including aerial bombing and gunnery training involving air-to-air and air-to-ground ordnance delivery, weapons testing, air combat training, tactical navigation, aerial maneuvers, and simulated electronic threat training. Approximately two-thirds of the acquired property remains active in these functions. Although available information regarding disposed property is very limited, no DOD improvements are known to have been constructed on the disposed portions of NAFR.

3. Disposed Air Force property consisting of approximately 1,644,026.56 acres is situated in nine areas (designated as Areas A through I for purposes of this report) on the periphery of the active NAFR. Area A (748,285 acres) was disposed of on 12 January 1942. Area B (23,040 acres), Area C (23,040 acres), and Area E (8,600.66 acres) were all disposed of on 11 March 1976. Area D (1,280 acres) was disposed of in early 1975. Area F (47,481.50 acres) was disposed of sometime between 1970 and 1979 (exact date unknown). Area G (733,418.44 acres) was disposed of

on 12 February 1952 (415,418.44 acres) and 19 December 1961 (318,000 acres). Area H (53,760 acres) was likely disposed of prior to 1960 (exact date unknown). Area I (5,120.96 acres) was disposed of on 22 July 1959 (4,749.06 acres) and 13 August 1957 (371.90 acres). No DOD improvements are known to exist on the disposed property. Currently, the Bureau of Land Management (BLM) owns approximately 805,994.72 acres, the U.S. Fish and Wildlife Service (USFWS) owns approximately 95,321.5 acres, the Department of Energy (DOE) owns approximately 733,418.44 acres, and private parties own approximately 9,291.9 acres. BLM property and private property uses include grazing, quarry operations, and mining operations. USFWS property is occupied by a wildlife refuge known as the Desert National Wildlife Range. DOE property is occupied by the Nevada Test Site which has been used for nuclear weapons testing and research for over forty years. Approximately 3,091,895.49 acres remain active.

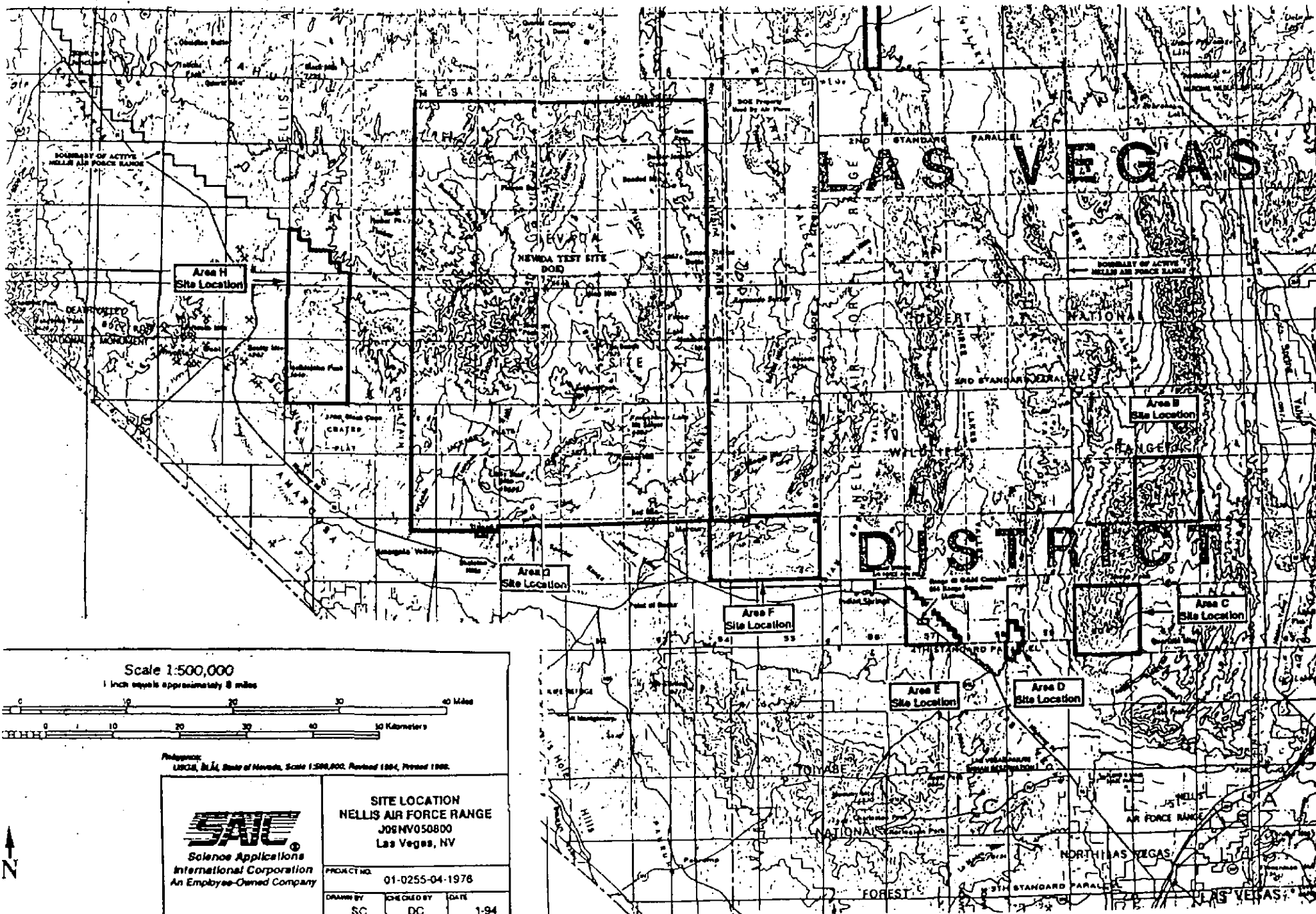
DETERMINATION

Based on the foregoing Findings of Fact, 1,644,026.56 acres have been determined to be formerly used by the Department of Defense. This portion is therefore eligible for the Defense Environmental Restoration Program - Formerly Used Defense Sites, established under 10 USC 2701 et seq.

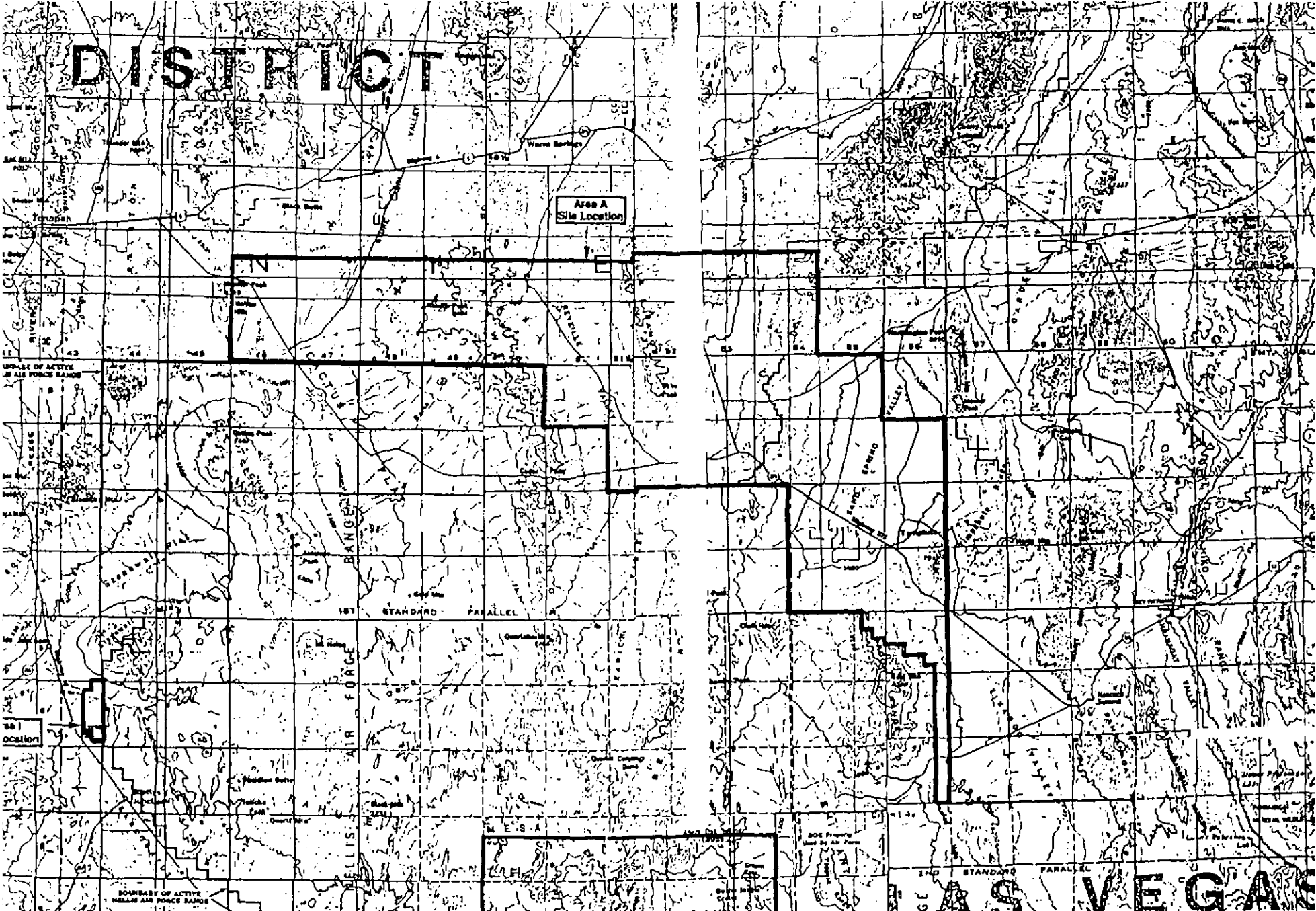
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for DEP ~~alt~~ coc
MILTON HUNTER
Brigadier General, U.S. Army
Commanding



DISTRICT



PROJECT SUMMARY SHEET
FOR
DERP-FUDS OEW PROJECT NO. J09NV050802
NELLIS AIR FORCE RANGE /D/
SITE NO. J09NV050800
11 January 1994

PROJECT DESCRIPTION: This Project Summary Sheet is specifically for Area A, consisting of 748,285 acres as defined in the Site Survey Summary Sheet. Although no evidence of DOD ordnance use was observed during the site visit, evidence of ordnance use has been observed by people familiar with this disposed area of Nellis Air Force Range (NAFR). A hunter recalled finding .50 caliber bullet shells and clips approximately in Township 1 North, Range 53 East. A Bureau of Land Management (BLM) employee recalled finding a World War II era 1,000 pound bomb in a miner's shack located in Township 1 North, Range 48 East. In addition, this site is currently adjacent to the active NAFR where bombing and gunnery training is conducted.

PROJECT ELIGIBILITY: The Department of Defense controlled this 748,285-acre area approximately from 1940 to 1942. The Air Force used the property as a bombing and gunnery range.

POLICY CONSIDERATIONS: No property acquisition or other title transfer documents were found that address specifically ordnance/explosive waste. No other policy considerations are known to exist that would affect proposal of this project.

PROPOSED PROJECT: Recommend the Corps' Mandatory Center of Expertise (MCX) for OEW at the Huntsville Division make a determination if further action is appropriate.

RAC FORM: Attached.

DISTRICT POC: Request CEHND inform Mr. Jatin Desai at (213) 894-6266 when a determination is made regarding project status.

RISK ASSESSMENT PROCEDURES FOR
ORDNANCE AND EXPLOSIVE WASTE (OEW) SITES

Site Name Wells Air Force Range Area A Rater's Name Randall King
Site Location Las Vegas, NV Phone No. 205-955-4587
DERP Project # 209NVRSD302 Organization CEHND-Pm-50
Date Completed 26 Sep 94 RAC Score RAC-4

OEW RISK ASSESSMENT:

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The RAC score will be used by CEHND to prioritize the remedial action at Formerly Used Defense Sites. The OEW risk assessment should be based upon best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) detachment actions, and field observations, interviews, and measurements. This information is used to assess the risk involved based upon the potential OEW hazards identified at the site. The risk assessment is composed of two factors, hazard severity and hazard probability. Personnel involved in visits to potential OEW sites should view the CEHND videotape entitled "A Life Threatening Encounter: OEW."

Part I. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible mishap resulting from personnel exposure to various types and quantities of unexploded ordnance items.

TYPE OF ORDNANCE
(Circle all values that apply)

A. Conventional Ordnance and Ammunition	VALUE
Medium/Large Caliber (20 mm and larger)	10
Bombs, Explosive	<u>10</u>
Grenades, Hand and Rifle, Explosive	10
Landmines, Explosive	10
Rockets, Guided Missiles, Explosive	10
Detonators, Blasting Caps, Fuzes, Boosters, Burstern	6
Bombs, Practice (w/spotting charges)	6
Grenades, Practice (w/spotting charges)	4
Landmines, Practice (w/spotting charges)	4
Small Arms (.22 cal - .50 cal)	<u>1</u>
Conventional Ordnance and Ammunition (Select the largest single value)	<u>10</u>

What evidence do you have regarding conventional OEW? evidence obtained by BLM employee

B. Pyrotechnics (For munitions not described above.)

VALUE

Munition (Container) Containing
White Phosphorus (WP) or other
Pyrophoric Material (i.e.,
Spontaneously Flammable) 10

Munition Containing A Flame
or Incendiary Material (i.e., Napalm,
Triethylaluminum Metal Incendiaries) 6

Flares, Signals, Simulators, Screening
Smokes (other than WP) 4

Pyrotechnics (Select the largest single value) 0

What evidence do you have regarding pyrotechnics? No evidence

C. Bulk High Explosives (Not an integral part of conventional ordnance;
uncontainerized.)

VALUE

Primary or Initiating Explosives
(Lead Styphnate, Lead Azide,
Nitroglycerin, Mercury Azide,
Mercury Fulminate, Tetracene, etc.) 10

Demolition Charges 10

Secondary Explosives
(PETN, Compositions A, B, C,
Tetryl, TNT, RDX, HMX, HBX,
Black Powder, etc.) 8

Military Dynamite 6

Less Sensitive Explosives
(Ammonium Nitrate, Explosive D, etc.) 3

High Explosives (Select the largest single value) 0

What evidence do you have regarding bulk explosives? No evidence

D. Bulk Propellants (Not an integral part of rockets, guided missiles, or
other conventional ordnance; uncontainerized)

VALUE

Solid or Liquid Propellants 6

Propellants 0

What evidence do you have regarding bulk propellants? No evidence

E. Chemical Warfare Materiel and Radiological Weapons

	VALUE
Toxic Chemical Agents (Choking, Nerve, Blood, Blister)	25
War Gas Identification Sets	20
Radiological	15
Riot Control Agents (Vomiting, Tear)	5
Chemical and Radiological (Select the largest single value)	<u>0</u>

What evidence do you have of chemical/radiological OEW? no evidence

=====

TOTAL HAZARD SEVERITY VALUE 10
 (Sum of Largest Values for A through E--Maximum of 61)
 Apply this value to Table 1 to determine Hazard Severity Category.

TABLE 1
HAZARD SEVERITY*

Description	Category	Hazard Severity Value
CATASTROPHIC	I	21 and greater
<u>CRITICAL</u>	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE		0

* Apply Hazard Severity Category to Table 3.

**If Hazard Severity Value is 0, you do not need to complete Part II. Proceed to Part III and use a RAC Score of 5 to determine your appropriate action.

Part II. Hazard Probability. The probability that a hazard has been or will be created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used DOD site.

AREA, EXTENT, ACCESSIBILITY OF OEW HAZARD
(Circle all values that apply)

A. Locations of OEW Hazards

	VALUE
On the surface	(5)
Within Tanks, Pipes, Vessels or Other confined locations.	4
Inside walls, ceilings, or other parts of Buildings or Structures.	3
Subsurface	2
Location (Select the single largest value)	5

What evidence do you have regarding location of OEW? evidence obtained
by BAM contractor

B. Distance to nearest inhabited locations or structures likely to be at risk from OEW hazard (roads, parks, playgrounds, and buildings).

	VALUE
Less than 1250 feet	5
1250 feet to 0.5 miles	4
0.5 miles to 1.0 mile	3
1.0 mile to 2.0 miles	2
Over 2 miles	(1)

Distance (Select the single largest value)

What are the nearest inhabited structures? Highway 325 2 mks away

C. Numbers of buildings within a 2-mile radius measured from the OEW hazard area, not the installation boundary.

	VALUE
26 and over	5
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	①
0	0

Number of Buildings (Select the single largest value) 1

Narrative ORIGINAL RAC

D. Types of Buildings (within a 2 mile radius)	VALUE
Educational, Child Care, Residential, Hospitals, Hotels, Commercial, Shopping Centers	5
Industrial, Warehouse, etc.	4
Agricultural, Forestry, etc.	3
Detention, Correctional	2
No Buildings	0

Types of Buildings (Select the largest single value) 0

Describe types of buildings in the area. ORIGINAL RAC

E. Accessibility to site refers to access by humans to ordnance and explosive wastes. Use the following guidance:

BARRIER	VALUE
No barrier or security system	5
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing.	4
A barrier, (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	3
Security guard, but no barrier	2
Isolated site	1
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility; or An artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the facility).	0

Accessibility (Select the single largest value)

Describe the site accessibility. AREAS are Remote, but access is not controlled

F. Site Dynamics - This deals with site conditions that are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion by beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

	VALUE
Expected	5
None Anticipated	0
Site Dynamics (Select largest value)	0
Describe the site dynamics. <u>None expected</u>	

TOTAL HAZARD PROBABILITY VALUE

(Sum of Largest Values for A through F--Maximum of 30)

Apply this value to Hazard Probability Table 2 to determine Hazard Probability Level.

12

TABLE 2

HAZARD PROBABILITY

Description	Level	Hazard Probability Value
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

* Apply Hazard Probability Level to Table 3.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table 3. Enter with the results of the hazard probability and hazard severity values.

TABLE 3

Probability Level		FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
Severity Category:						
CATASTROPHIC	I	1	1	2	3	4
CRITICAL	II	1	2	3	4	5
MARGINAL	III	2	3	4	4	5
NEGLIGIBLE	IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

- RAC 1 Expedite INPR, recommending further action by CEHND - Immediately call CEHND-ED-SY--commercial 205-955-4968 or DSN 645-4968.
- RAC 2 High priority on completion of INPR - Recommend further action by CEHND.
- RAC 3 Complete INPR - Recommend further action by CEHND.
- RAC 4 Complete INPR - Recommend further action by CEHND.
- RAC 5 Usually indicates that no further action (NOFA) is necessary. Submit NOFA and RAC to CEHND.

Part IV. Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

site is remote, access is not controlled, DEW found on the surface